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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/690,591	10/18/2000	Naomasa Shiraishi	107629	2556

25944 7590 10/04/2002

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EXAMINER

BROWN, KHALED

ART UNIT	PAPER NUMBER
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2851

DATE MAILED: 10/04/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application N .

09/690,591

Applicant(s)

SHIRAISHI, NAOMASA

Examiner

Khaled Brown

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2000 and 13 February 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 8, 12 and 14 is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4-7, 9, 10, 13 and 15 is/are rejected.
- 7) ☒ Claim(s) 3 and 11 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 February 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 4 and 5 are rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential elements, such omission amounting to a gap between the elements. See MPEP § 2172.01. The omitted elements are: a first gas and a second gas.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) do not apply to the examination of this application as the application

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being examined was not (1) filed on or after November 29, 2000, or (2) voluntarily published under 35 U.S.C. 122(b). Therefore, this application is examined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1,2,7,9,10,15 are rejected under 35 U.S.C. 102(b) as being anticipated by Koizumi et al (US 4704348).

Re clms 1,7,9 Koizumi et al discloses an exposure method in which a second object (39) is exposed, via a projection system (42), with an exposure beam that has passed a pattern of a first object (44), said exposure method comprising: dividing the space between said projection system (42) and said second object (39) into a first space (space enclosed by 45) on the side of said projection system and a second space (space immediately below and outside the space enclosed by 45) on the side of said second object (39) and setting the contamination degree of impurities of said first space smaller than that of said second space (in a first space is filtered nitrogen gas while in a second space is initially air which has a higher contamination degree than just nitrogen Col 3 lines 6-57 and Col 4 lines 17-23) and exhausting, via said gas blown in said first space, a substance generated from said second object by the illumination thereof (inherently a substance will be generated from the exposure of the photoresist and this substance will be at least partially blown away by the gas from the first space).

Re clm 2: gas is blown in a single direction (downward direction)

Re clm 10: Koizumi et al discloses an exposure apparatus in which a second object (39) is exposed, via a projection system (42), with an exposure beam that has passed a pattern of a first object (44), said exposure apparatus comprising: an aperture plate (45

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forms an opening and is therefore an aperture) which is disposed between said projection system (42) and said second object (39) and on which an aperture for making said exposure beam pass through is formed, a first gas supply mechanism (46), and an environmental control mechanism (34) that controls the environment of a second gas (32 inlets air) which is supplied to a second space (space immediately above 39) between said aperture plate (45) and said second object (39), wherein said environmental control mechanism controls the contamination degree of impurities of said second gas so as to be different from that of said first gas (air from inlet 32 has a different contamination degree of impurities than nitrogen gas from 46).

Re clm 15: work piece (40).

Claims 6 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Takagi et al (US 5877843).

Re clms 6,13: Takagi et al discloses an exposure method in which a second object (W) is exposed, via a projection system (PL), with an exposure beam that has passed a pattern of a first object (R), comprising: measuring the position of said second object relative to a predetermined reference member (48) by illuminating a stage (WST) moving with said second object (W) and said reference member (48) with a measurement beam and a reference beam (Shown in Fig 5), respectively and making both of the optical paths of said measurement beam and said reference beam to be gaseous atmospheres each having about the same contamination degree of impurities

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that absorb said exposure beam (both beams pass through the same atmosphere and therefore contain the same impurities).

Allowable Subject Matter

Claims 8,12 and 14 are allowed.

The following is an examiner's statement of reasons for allowance: the prior art of record fails to disclose or suggest an "aperture at a region through which a detection beam for detecting the position of said first object or said second object passes" or "a setting device" in conjunction with the rest of the claimed subject matter.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Claims 3 and 11 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: the prior art of record fails to disclose or suggest "vacuum ultraviolet light" or "a chamber that substantially hermetically seals" in conjunction with the rest of the claimed subject matter.


Note: No IDS has been filed in this application.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khaled Brown whose telephone number is 703-306-5738. The examiner can normally be reached on M-F 8:30am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russell E. Adams can be reached on 703-308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1782.

KB
September 30, 2002


RUSSELL ADAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800